DYNAMIC SOLUTIONS

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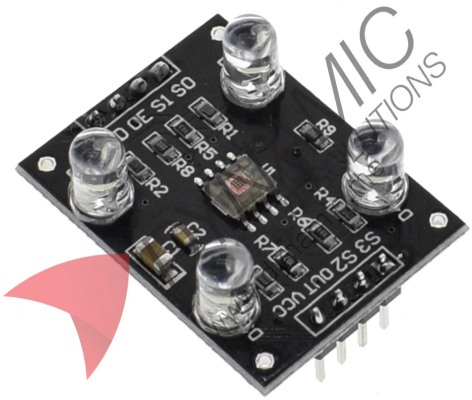
Color Recognition Sensor TCS230 TCS3200



Features:

The TCS230/TCS3200 Color Sensor module is a full-featured color detection unit that integrates the TCS3200 RGB sensor chip along with four white LEDs for consistent illumination. It detects a wide spectrum of visible colors using an array of photodetectors covered by red, green, blue, or clear filters, evenly distributed to prevent color bias. The sensor outputs a square-wave signal with a frequency directly proportional to the intensity of the selected color channel, enabling accurate color recognition for applications like color sorting, test strip analysis, ambient light sensing, and color calibration.

Specifications	
Operating Voltage	2.7 V to 5.5 V
Output Type	Frequency output (square wave)
Resolution	High-resolution light-to-frequency conversion
Output Frequency Scaling	Selectable via S0 and S1 inputs
Color Filter Selection	Selectable via S2 and S3 inputs
Output Pin	OUT – frequency proportional to color intensity
Output Enable	OE – active LOW (enables output)
Power Down Mode	Supported
LED Control	Supports onboard LED illumination control
Communication	Direct frequency output to microcontroller
Module Dimensions	28.4 mm × 28.4 mm

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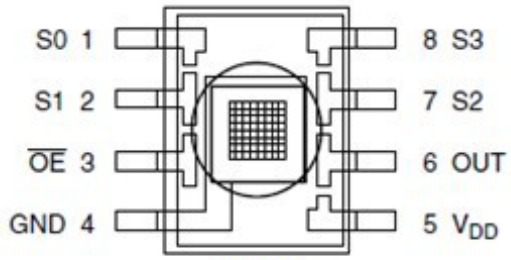
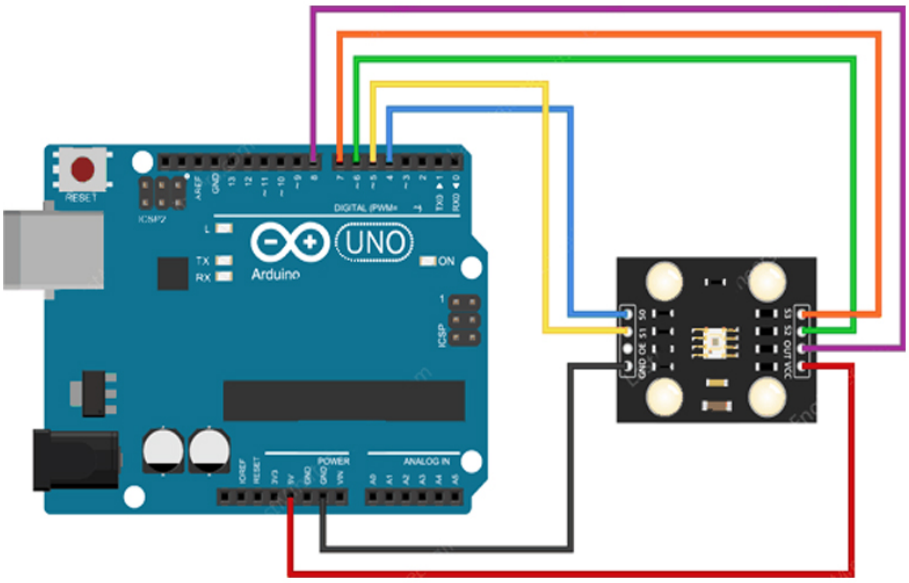
Pinouts:

Pin Name	Type	Description
VDD	Power Input	Supply voltage (typically 2.7V–5.5V)
GND	Power Ground	Common ground. All signals are referenced to this pin
S0	Input	Output frequency scaling selection input
S1	Input	Output frequency scaling selection input
S2	Input	Photodiode type selection input
S3	Input	Photodiode type selection input
OE	Input	Output enables (active LOW). Disables output when HIGH
OUT	Output	Frequency output signal proportional to light intensity



TCS3200



Product Pictures:

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